

**IN THE CLAIMS:**

This listing of claims replaces, without prejudice, all prior versions and listings of claims in the application:

1. (Previously Presented) A dynamic irradiation process for the depolymerization of heparin wherein the depolymerized heparin has a  $M_w$  less than or equal to 50% of the original  $M_w$  of said heparin prior to depolymerization, said dynamic irradiation process comprising exposing said heparin in solution at a concentration between 2 and 25% w/v to UV radiation having a peak of from 245 nm to 260 nm for a sufficient time to reduce the  $M_w$  of the depolymerized heparin by at least 50% as compared with the  $M_w$  of said heparin prior to said exposure to UV radiation.

2. (Previously Presented) The dynamic irradiation process according to claim 1, wherein the source of UV radiation is a medium or low pressure Hg lamp.

3. (Previously Presented) The dynamic irradiation process according to claim 1, wherein the UV radiation has a prevalent emission band at 253 nm.

4. (Canceled)

5. (Canceled)

6. (Previously Presented) The dynamic irradiation process according to any one of claims 1, 2, or 3, wherein the depolymerization process is carried out at a temperature of between 0 and 70 °C.

7. (Canceled)

8. (Previously Presented) The dynamic irradiation process according to any one of claims 1, 2, or 3, wherein the depolymerization process is carried out at a temperature of between 10 and 60 °C.

9. (Previously Presented) The dynamic irradiation process according to any one of claims 1, 2, or 3, wherein the solution has a concentration between 4 and 15% w/v.

10. (New) The dynamic irradiation process according to claim 1, wherein the process allows reduction of molecular weight without sensible modification of the chemical structure of the heparin.